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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,435	12/23/1999	MICHAEL J. MCTAGUE	INTL-0296-US	7390

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EXAMINER

TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2631

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DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/471,435

Applicant(s)

MCTAGUE ET AL.

Examiner

Khanh Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The Amendment A filed on January 3, 2003 has been entered. Claims 1-30 are pending in this Office action.

Response to Arguments

2. Applicant's arguments filed on January 3, 2003 have been fully considered but they are not persuasive. The Examiner maintains the rejection on all claims as stated in the previous Office action.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Liu et al. discussed prior art voice band modem implementation shown in figure 1A and 1B in the background of invention, to which Liu et al. considers "similar in some respects". The prior art modem implementation is to employ a single receive data line and a single transmit data line shown as SDATA_OUT (serial, time division multiplexed input data stream from the PC) and SDATA_IN (serial, time division multiplexed output data stream to the PC) in figure 1A. It is apparent to those skilled in the art that a

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combination of "multiplexers" and "demultiplexers" are employed on both the Voice Band Modem Digital Circuitry 130 and the Voice Band Analog Circuitry 110. Since Liu et al.'s reference and prior art 1A are similar in some respects; various modifications of both teachings would have been obvious to one of ordinary skill in the art.

Referring back to figures 2A, 2B-(Sheet 1) and 2B-(Sheet 2) of Liu et al.'s invention, an "xDSL modem 200" consists of two physically separated (but electrically coupled) circuitry sections, a DSL Modem Analog circuit 205, and a DSL Modem Digital circuit 230. However, Liu et al. teaches that portions of DSL Modem Analog circuit 205 as well portions (or even all) of the DSL Modem Digital circuit 230 may be implemented in single chip (IC) form or each said circuit can be implemented on a separate IC circuit. Liu et al. further teaches that the invention is to provide a DSL interface that is "extremely flexible", and can be used in HDSL, SDSL, "ADSL", "reduced rate ADSL", etc ...

The Applicants stated in the Reply to Office Action on January 3, 2003 that "in Liu reference, there is no motivation either to have the device located in the same IC in which the A/D converter is located ..." and "... Moreover, the Liu reference, either alone or in combination with the prior art Figure 1A teachings, does not suggest the desirability of locating the device with the A/D converter within the IC circuit to implement the ADSL modem of claim 1 ...".

The Examiner respectfully disagrees with the Applicants. As recited in previous Office action, Liu et al.'s teachings suggest that digital filters for interpolations and decimations can be done on either DSL Modem Analog circuit 205 or DSL Modem

Digital circuit 230 when "oversampling" [which is always the case] is used in A/D and D/A. As a matter of fact, a digital filter 214 coupled to the output of the A/D 213 shown in figure 2B-(Sheet 2). It would be obvious that a decimation filter in place of the digital filter 214 shown in figure 2B-(Sheet 2) would produce lower data rate. An interpolation filter in place of the digital filter 214' shown in figure 2B-(Sheet 2) coupled to the output of the D/A converter 213', would produce higher data rate. It's apparent that a portion of Liu et al's teachings addresses the "device" issue.

For the reasons as set forth above, independent claim 14 and the claims dependent are also rendered obvious by Liu et al's reference. With regard to the rejection of claims 11-13, the claims still stand rejected under 35 U.S.C 103(a) over Liu et al. and further in view of Cheng.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Monday - Friday from 08:00 AM - 04:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT
March 12, 2003

TESFALLET BOCURE
PRIMARY EXAMINER